Created	Last saved	Printed	Revision	Issue	Document no.	Reference
2010-10-25	2011-04-26	2012-07-02	3	1	2094006	

Prepared by	Date	Approved by	Date	Checked by	Date
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EV Powercharger tools user manual

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Document Change Record

Rev.	Date	Pages affected	Change Description
1	2010-07-30		Initial version
2	2011-02-01	All	Updated manual with new screenshots and instructions on 32-bit and 64-bit installers
3	2011-04-26	1,2	Updated Installation chapter with instructions on installing IXXAT drivers

1 Requirements

Supported IXXAT USB-to-CAN driver for Windows must be greater than or equal to version 2.16.

The installer might need to install the latest .NET Framework from Microsoft if not already installed on your computer.

2 Installation

First step is to install the IXXAT USB-to-CAN driver. Both VCI V2 and VCI V3 are compatible with EV Powercharger tools. The latest driver VCI V3 supports both 32- and 64-bit Microsoft Windows operating systems.

For downloading VCI V3 driver and installation manual please visit:

http://ixxat.com/download_vci_v3_en.html

To start the installation process of EV Powercharger tools on a:

32-bit operating system use the installer “EV Powercharger Tools Setup x86”.
64-bit operating system use the installer “EV Powercharger Tools Setup x64”.

The EV PowerCharger Tools Setup Wizard will appear

Figure 1 Step 1 of the EV Powercharger Tools Setup Wizard

Press the next button to continue to the next step of the installation process. The “Cancel” button will abort the installation.

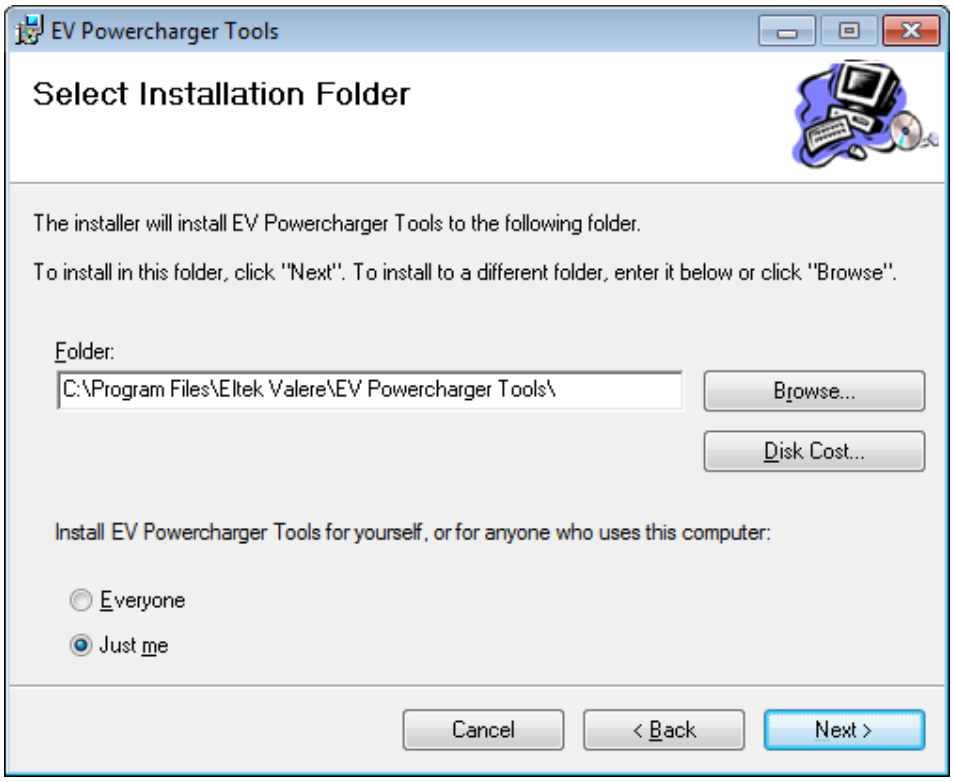

Figure 2 Step 2 of the EV PowerCharger Tools Setup Wizard.

In step 2 of the setup wizard, please choose which folder you would like to save the EV PowerCharger Tools application. To change directory, click browse and choose your preferred folder.

Follow the instruction given in the setup wizard until EV PowerCharger Tools is successfully installed.

3 Using EV Powercharger tools

Execute EV Powercharger Tools from the start menu “Programs” – “Eltek Valere” – “EV Powercharger” - “EV Powercharger Tools”. The window shown in Figure 3 will appear.

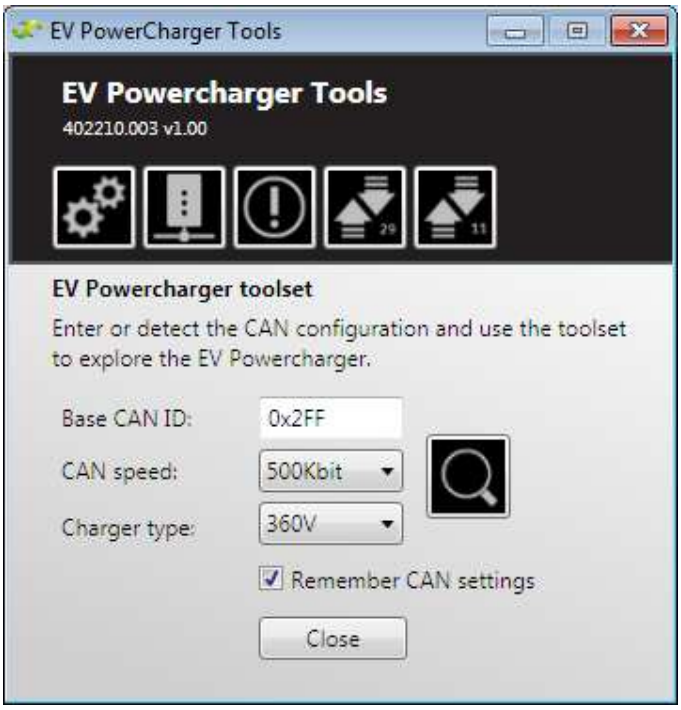

Figure 3 EV Powercharger Tools

Prior to using the tools the CAN configuration must be specified. This can be done manually if the configuration is known or automatically through detection (see Section 3.1). The CAN configuration can be remembered the next time the application starts if the checkbox labeled “Remember CAN settings” is ticked.

Once a CAN configuration has been manually specified or detected a tool can be used (see Section 3.3).

3.1 CAN settings

The following sections list the CAN configuration of the application.

3.1.1 Base CAN identifier

The base CAN identifier determines which 11-bit CAN identifiers are used to communicate with the charger(s). The default base CAN identifier of an EV Powercharger is 0x2FF.

See more details on the base CAN identifier in document:
EV Powercharger CAN protocol description (B-2086930-1-1)

3.1.2 CAN speed

There are four CAN speed options: 125Kbit, 250Kbit, 500Kbit and 1000Kbit. The default CAN speed of an EV Powercharger is 500Kbit.

3.1.3 Charger type

There are three charger types: 110V, 220V and 360V.

3.2 CAN settings detection

Click on the ”Detect” button to automatically detect the base CAN identifier, CAN speed and charger type of an EV Powercharger.

If more than one EV Powercharger is connected on the CAN bus the detect functionality will only work if the chargers share the same configuration.

The detect operation might take a while. When the operation completes the discovered CAN configuration is reflected in the window.

3.3 Tools

The following sections list the tools supplied by the application.

3.3.1 Configurator

The charger configuration tool can be used to change the CAN configuration, charger address, maximum input current, CAN communication timeout and active CAN protocol of an EV Powercharger.

All chargers being detected with the CAN configuration specified or detected in Section 3.1 are listed in the “Detected chargers” dropdown list.

Note that the “Eltek” CAN protocol should only be used by Eltek personnel.

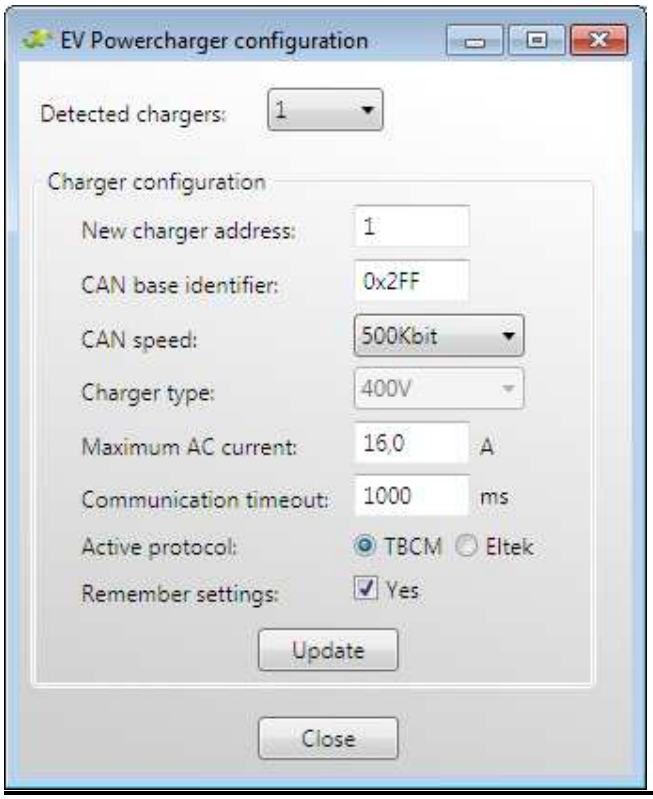

Figure 4 Charger configuration

3.3.2 Control system simulation

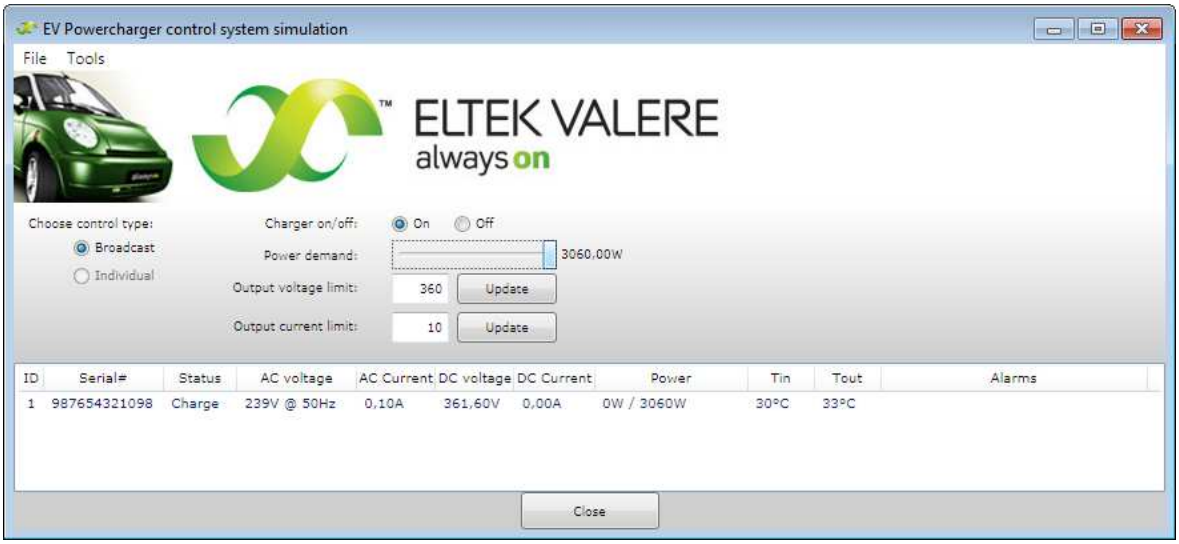

Figure 5 Control system simulation

The control system simulation tool is used to control and monitor an EV Powercharger. Figure 5 shows the control system simulation tool monitoring and controlling a single charger turned off.

- The “charger on/off” command starts or stops the charger (PFC and DC/DC)
- The “power demand” command provides a power reference in % of full power to the charger
- The “output voltage limit” command specifies a maximum DC voltage limit to the charger
- The “output current limit” command specifies a maximum DC current limit to the charger

3.3.3 Firmware loader

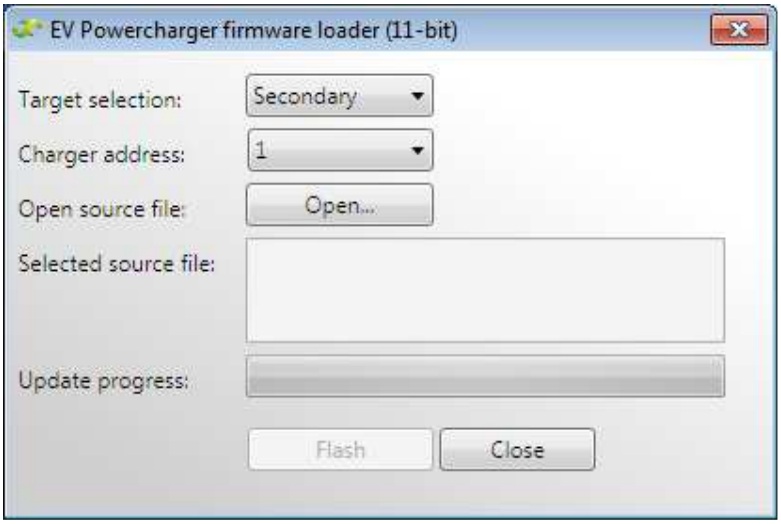

Figure 6 Firmware loader (11-bit)

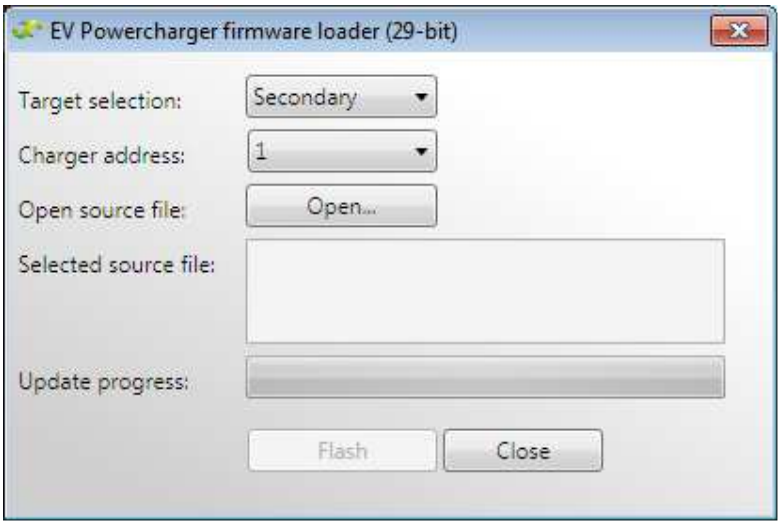

Figure 7 Firmware loader (29-bit)

There are two firmware loaders, one for 11-bit (TBCM protocol) and one for 29-bit (Eltek protocol).

The firmware loader is used to flash the software of an EV Powercharger:

- Secondary software - DC/DC and Eltek protocol
- Primary software – PFC
- Protocol software – TBCM protocol

Select the desired target in the “Target selection” list and charger address to flash an EV Powercharger. Use the “Open” button to locate the appropriate firmware file on your hard drive. Press “Flash” to start the update routine.

3.3.4 Charger information

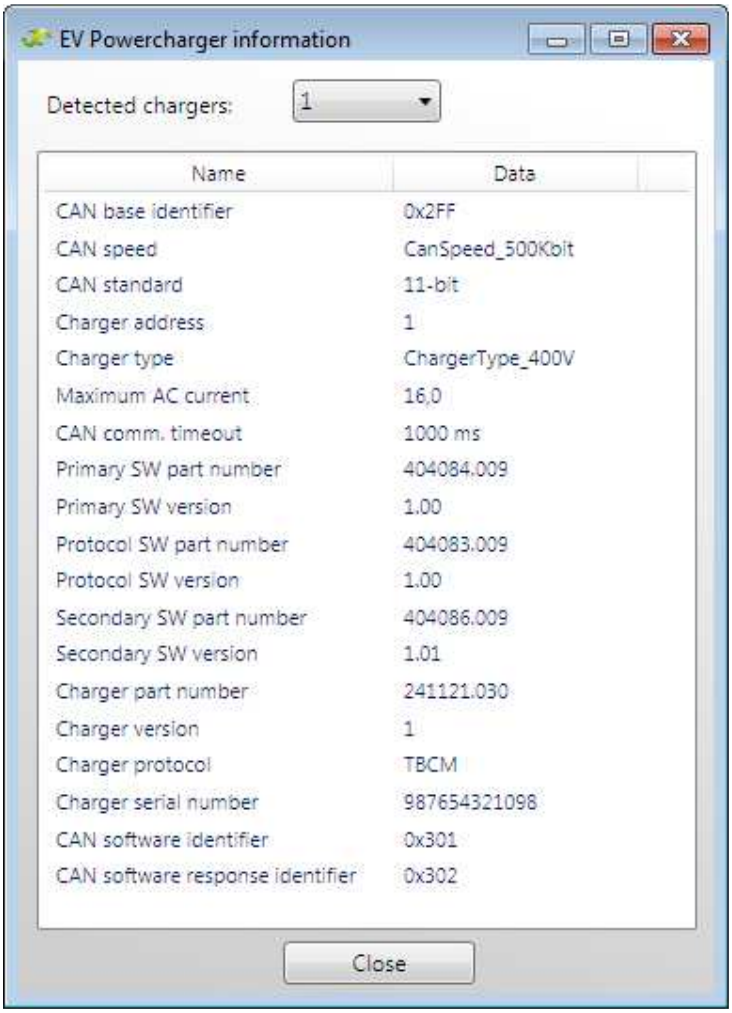

Figure 8 Charger information

The charger information tool presents information for each detected EV Powercharger. Choose individual chargers from the “Detected chargers” list.